

84. Third stage in Artificial Research by Application



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Until now what I have developed, in relation to the [Global Artificial Intelligence](#), on this blog, is the sixth phases: 1)the construction of [specific intelligences](#) by [Application](#) and by [Deduction](#), 2) [the collaboration](#) between them, 3)the [standardization](#) process, 4) the [unification](#) process, 5) [particular programs, particular applications, and particular programs for particular applications](#), 6) the [integration](#) process.

And within the [Artificial Research by Deduction](#), for every phase first (specific intelligence by Deduction), third (standardised Global Artificial Intelligence), fifth (particular programs), sixth (integrated Global Artificial Intelligence), I have developed in detail the third stage by Deduction, analysing for every phase by Deduction: specific (first), standard (third), particular (fifth), integrated (sixth); how the third stage by Deduction could be subdivided in: [Modelling System](#) (first step within the third stage by Deduction), [Decisional System](#) (second step within the third stage by deduction), [Application System](#) (third step within the third stage by Deduction), Learning System (fourth step within the third stage by deduction).

Within the third step, the Application System we can distinguish between: the Application System as an outer instructions application sub-system, and the Artificial Engineering as an inner instructions application sub-system. In turn, Artificial Engineering as an inner application sub-system (as a sub-system within the Application System) consist of two different programs: the Designer of Artificial Intelligence and the Intelligent Robotic Mechanic.

Because the fourth steps within the third stage in by Deduction should be developed in every phase in which by Deduction is involved, for that reason, as long the Artificial Research by Deduction is evolving from the first phase to the sixth phase, every step within the third stage evolves as long as the intelligences associated with are evolving.

That is why in the first phase by Deduction, Specific Artificial Intelligence for Artificial Research by Deduction, the third stage consists of: the specific Modelling System, the

specific Decisional System, the specific Application System, the specific Learning System.

In the third phase by Deduction, standardised Global Artificial Intelligence, the third stage consists of: the [standard Modelling System](#), the [standard Decisional System](#), the [standard Application System](#), the standard Learning System.

In the fifth phase by Deduction, particular programs and particular programs for particular applications, as long as the synthesis between particular programs and particular applications is done, the third stage consists of: the [particular Modelling System](#), the [particular Decisional System](#), the [particular Application System](#), the particular Learning System.

And in the sixth phase by Deduction, the integrated Global Artificial Intelligence, the third stage consists of: the [integrated Modelling System](#), the [integrated Decisional System](#), the integrated Application System, and the integrated Learning System.

In the analysis of the third stage by deduction, until now I have developed: the Modelling System and the Decisional System in phases first (specific), third (standard), fifth (particular) and sixth (integrated), and I have developed the Application System as outer sub-system only for phases first (specific), third (standard), and fifth (particular), but not yet for the sixth phase (integrated), and not having developed yet the Artificial Engineering as inner sub-system, and not having developed yet the Learning System at all.

For the development of the third stage by Application, what it will be very important, is the analysis made previously for the design of the third stage by Deduction, in fact, at some point, the third stage by Application will borrow from the third stage by Deduction, many ideas but adapted for the development of the third stage by Application.

If in the third stage by Deduction the fourth steps are: Modelling System, Decisional System, Application System, Learning System. The third stage by Application will be distributed in the same steps, only adding to distinguish these ones from the steps within the third stage by Deduction, the label of categorical, naming them: categorical Modelling System, categorical Decisional System, categorical Application System, categorical Learning System.

For that reason, now when analysing the categorical: Modelling, Decisional, Application, Learning; Systems, to distinguish between these categorical systems as four steps within the third stage by Application, respect to those systems developed as four steps within the third stage by Deduction, the four systems developed within the third stage by deduction will be called: deductive Modelling System, deductive Decisional System, deductive Application System, deductive Learning System.

The way in which, in general, the four steps within the third stage by Deduction work is as follows:

- The specific/standardized/particular/integrated deductive Modelling System: once the specific or global program or particular program files the rational hypothesis in the database of rational hypothesis (first stage), is modelled (second stage), to make decisions (third stage) based on Deduction and Probability, trigonometry, solving maths problems, Impact of the Defect and Effective Distribution, and as soon the decisions are made, the decisions are filed in the database of decisions as first stage for the specific/standardized/particular/integrated deductive Decisional System.
- The specific/standardized/particular/integrated deductive Decisional System: having as first stage the database of decisions, the decisions are projected as second stage, to be transformed into instructions in the third stage, once the decision is transformed into a range of instructions, the deductive Decisional System files the instructions in the database of instructions as first stage for the specific/standardized/particular/integrated deductive Application System as outer sub-system.
- The specific/standardised/particular/integrated deductive Application System, having as first stage the database of instructions, in the second stage matches every instruction to the right application or robotic device to apply the instruction. The applications or robotic devices are distributed as well in three stages, first one their individual database of instructions, the second one the application of every instruction, as the third stage the final report for every instruction. Having all the reports for every instruction, the third stage of the Application System makes a final assessment to send, in addition to the Decisional System, waiting for further decisions, to the Learning System, including every assessment in the database of evaluations in the Learning System.

- The specific/standardized/particular/integrated deductive Learning System, will have different sources of information, the database of reports from the Application System, the seven rational critiques, and the whole assessment of the Specific or Global Artificial Intelligence or particular program or particular program for particular application, for the analysis of these three sources of information as second stage, to make decisions as third stage.

Having in mind how the specific/standardised/particular/integrated deductive Modelling-Decisional-Application-Learning Systems work in Specific or Global Artificial Intelligence and particular programs or particular programs for particular applications.

The way to develop the categorical Modelling-Decisional-Application-Learning Systems for Specific Artificial Intelligences for Artificial Research by Application, the collaboration between by Deduction and by Application, the Unified Application, particular applications, and the categorical management of categorical attributions within the integrated Global Artificial Intelligence is as follows:

- Categorical Modelling System: once previously in the second stage by Application every real object has been matched with the right category from the database of categories in the first stage (otherwise the measurements of this real object would be included within the database of categories as a new category), in the third stage, the first step is the categorical Modelling System, according to what category has been chosen to match the real object, the real object is classified in the right file within the conceptual scheme as first stage of the categorical Modelling System. Once the real object has been filed in the right file in the conceptual scheme as first stage of the categorical Modelling System, then in the second stage of the categorical Modelling System are identified all the conceptual sets of this object according to its category as well as any other quality set, and according to these conceptual sets is made the conceptual model, and the conceptual model located in the conceptual map. As third stage the decision according to the category, model and map, for instance, the classification of packages to be sent by a drone system, or a system of drive-less cars, once the packages have been identified, matching categories, sets, models, and identified where is located the origin and the destiny, is time to make decisions upon this information to send the package. In a plantation, once the seeds are received, matched, classified, modelled and located in the right place within the plantation for these seeds, upon these results to make decisions to plant the seeds in the right place in the plantation. For instance, according to what kind of seed of coffee or tea, where is the right place to plant these seeds in the

plantation, carrying on all the decisions to plant the seeds according to these categories, sets, models, and location on the map of the plantation.

- Categorical Decisional System: once the decision is made in the third stage of the categorical Modelling System, then the categorical Modelling System files the decision in the database of categorical decisions as the first stage of the categorical Decisional System. As the second stage, the categorical Decisional System makes the projects, and as the third stage, the decisions on the project are transformed into instructions, to be filed in the categorical database of instructions, as the first stage of the categorical Application System. In a drone system for the delivery of packages, projecting every journey of every drone, and distributing the decision into instructions. As soon as the collaboration between by Application and by Deduction starts working, combining navigation by Deduction and the categorical assignment of Destination by Application. At the end, by the time that particular programs for particular applications start working as an experiment for the integration process, every drone must combine navigation by Deduction and categorisation of destiny by Application. In a plantation of coffee or tea, once the seeds are classified, if tea or coffee, to plant every seed in the right place according to its category, coffee or tea.

- Categorical Application System: having as first stage the categorical database of instructions, the second stage matches every instruction to the right application or robotic device, the application or robotic device is organised as well in three stages, and as third stage the final report, to send, among other recipients, the categorical Learning System.

- categorical Learning System: having, as first stage, as sources of information the categorical database of reports, the rational critiques of every attributional process, and the whole assessment of the whole process using Impact of the Defect and Effective Distribution, the analysis of this information as second stage, to make decisions as third stage.

Every categorical system by Application will be developed in the third stage of the first phase, the second phase, and the fourth phase. and at least the first two steps in the third stage of the sixth phase for the categorical management of categorical attributions within the integrated Global Artificial Intelligence.

In the first phase, the analysis of the third stage of the Specific Artificial Intelligence for

Artificial Research by Application, analysing the specific categorical Modelling System, the specific categorical Decisional System, the specific categorical Application System, as inner and as outer instruction sub-system, and the specific categorical Learning System.

In the second phase analysing how in the third stage the specific categorical Modelling System, the specific categorical Decisional System, the specific categorical Application System, the specific categorical Learning System are going to collaborate with the specific deductive Modelling System, specific deductive Decisional System, specific deductive Application System and the specific deductive Learning System. Collaboration which is going to set up the real foundations for later on the creation of the first particular programs for particular applications, or particular applications for particular programs, in the fifth phase, getting ready the first experiments at particular level to be applied later at global level in the sixth phase, the integrated Global Artificial Intelligence.

In the fourth phase, analysing the third stage of the Unified Application, analysing the unified categorical Modelling System, the unified categorical Decisional System, the unified categorical Application System, and the unified categorical Learning System.

The Unified Application as a result of the integration process, sixth phase, should be responsible for the management of the matrix, as application or first stage for the integrated Global Artificial Intelligence, and responsible for the management of the whole integrated Application System, as a result to integrate the standardized deductive Application System, or first global deductive Application System, and the unified categorical Application System.

In the sixth phase there are at least two strategies: the most popular one which is going to be boosted by intelligence agencies in US, Russia, and China, to boost the synthesis of the integrated deductive Modelling System and the integrated categorical Modelling System, synthesising the deductive model, the categorical model, the deductive project, and the categorical project, to create the plan as soon as possible, having in one plan the synthesis of deductive and categorical models and projects.

Instead my approach would be to analyse every possible contradiction in the management of the integrated deductive model and integrated deductive project (both of them synthesised in the third deductive instant), and every possible contradiction in the management of the integrated categorical model and integrated categorical project (both of them synthesised in the third categorical instant), what I would do is to develop

in different systems within the third stage of the integrated Global Artificial Intelligence, in parallel, the integrated deductive Modelling System, the integrated deductive Decisional System, and on the other hand the integrated categorical Modelling System, the integrated categorical Decisional System, only mixing these two different ways of management of deductive and categorical attributions in the integrated Application system as that one which should manage all the instructions coming from deductive and categorical processes.

The methodology that I will develop, is much slower, but I will ensure that the third deductive instant in the integration process, the integrated deductive plan joining the deductive model and project, will be right, at the same time that I am ensuring that the third categorical instant joining the categorical model and project is right too, so I am sure that the third instant has been done without mistake in the deductive plan and without mistake in the categorical plan, the fourth instant should be to join the categorical and deductive plan in only one plan, I will develop this fourth instant as part of the seven phase, the reason itself.

From my point of view, the integrated Application System should integrate the standardised deductive Application System; in other words, the Application System coming from the standardised Global Artificial Intelligence, third phase, and the unified categorical Application System; in other words, the Application System coming from the Unified Application.

The union of the Application System from the standardized Global Artificial Intelligence, and the Application System from the Unified Application, will be integrated Application System, integrating the deductive and categorical Application Systems in only one final integrated Application System working for the final Global Artificial Intelligence, including in this integrated Application System the integrated Application System as outer sub-system, and the Artificial Engineering as inner sub-system.

For the whole development of the integrated Application System as a result to join the deductive and the categorical Application System, in other words, the Application System within the Global Artificial Intelligence and the Application System within the Unified Application, then is necessary to develop previously the categorical Application System, as long as it is part of the systems comprehended within the third stage by Application: the categorical Modelling System, the categorical Decisional System, the categorical Application System, and the categorical Learning System.

Along the entire process made by Application, there will be four categorical critiques, whose responsible is the categorical Learning System, the four categorical critiques are:

- First objective categorical critique: criticising that the attribution made in the second stage by Application, matching a real object and a category within the database of categories, is right. If there is a high number of wrong attributions in any category, equal to or greater than a critical reason, it should be enough to research the origin of this high level of wrong attributions, identifying the common element in all these wrong attributions to be fixed.

- Second decisional categorical critique: criticizing that the attribution made in the categorical Modelling System, matching models and decisions, is right, if there is a high number of wrong attributions in any kind of models related to any category matched to any real object, equal to or greater than a critical reason, is necessary to search for the common element in all the wrong attributions between models and decisions to be fixed.

- Third instructional categorical critique: criticizing that the attribution made in the categorical Decisional System, in the distribution of instructions for every decision, is right, if in the distribution of instructions per decision, there is a high level of wrong instructions attributed to any decision, as least equal to or greater than a critical reason, then it is necessary the research of what is the common element in all the wrong attributions between decisions and instructions.

- Fourth robotic categorical critique: criticizing that the attribution made in the Application System, attributing instructions and applications or robotic devices is right, if there is a high level of wrong attributions, equal to or greater than a critical reason, then the research of the common element in the wrong attribution to be fixed.

All these critiques are categorical because all of them depend on the categorical attribution made in the second stage of by Application, attributing categories to real objects, depending on the category attributed to the real object, later on the modelling of the real object will depend on this attribution, and according to the model the attribution of the right decision, in essence the attribution of a decision to a real object depends on the attribution of the right category to this object, if the initial categorical attribution is wrong, then the decisional attribution will be wrong, what means that there is a

probability that a high level of wrong attributions between decisions and models relies on wrong attributions between objects and categories, not found out on time being causes of further mistakes.

According to the categorical decision, in the categorical Modelling System, later on the categorical Decisional System will transform the decision into instructions, which is not other thing but the attribution of instructions to decisions, and according to this attribution, later on the attribution of instructions to robotic devices.

In the end, all the attributional process in by Application relies on the categorical attribution made on the second stage, attributing the right category to every real object. And for that reason, the critiques made by Application are called categorical critiques, while the critiques made by Deduction are rational critiques because they depend on the attribution of pure reasons (equations) to a set of data.

When the attributional process relies on the attribution of pure reasons to data, further critiques as a consequence of this rational attribution are rational critiques. When the attributional process relies on the attribution of categories to real objects, further critiques as a consequence of this categorical attribution are categorical critiques.

Along with the categorical critiques in by Application, every system in every step within the third stage by Application, will have its own assessment of every process or procedure within the system.

In the same way that the deductive Modelling System includes the rational checks, the categorical Modelling System will include the categorical checks, with the difference that, instead of seven rational checks, there will be five categorical checks.

The first categorical check in the categorical Modelling System as first step within the third stage by Application, is to check the absence of contradictions between the real objects, if the categorical attribution in the second stage by Application was right, and was filing in the right file in the conceptual scheme as first stage of the categorical Modelling System, should not be any contradiction between the objects in the conceptual scheme.

In the second stage in the categorical Modelling System, the second categorical check will ensure that the conceptual sets, within the real object, according to the classification, are right.

For instance, in social science, the attribution of any social profile to any person, as a attributional process in the second stage, will end up classifying that person in the conceptual scheme in that place which corresponds to that person in the scheme, associated with that scheme and category, the place of that category in that scheme could be related to some conceptual sets, the second categorical check will check that the conceptual sets associated with that real object according to the category and the scheme, are right for that real object.

If in a dating site, according to the category attributed to that person, and the place where that person has been located in the conceptual scheme, that person should belong to those conceptual sets associated with that category and place in the scheme, in order to match that person with potential partners, the second check will ensure that the supposed conceptual sets associated with that person according to the category attributed and place in the scheme, are conceptual sets right to that person, that real person has been rightly inserted in that conceptual sets. Otherwise, the person should be catalogued in other categories, or other places in the scheme, or if the scheme is liquid, to keep that person in that category and place in the scheme but removing that person from those conceptual sets which, normally correlating to that category and place in the scheme, are not within the qualities of that person.

This means that the relation between conceptual sets and categories could be liquid or not, or the relation between conceptual sets and places in the scheme could be liquid or not, liquid when is possible to keep a real object within a category or place in a scheme but removing some conceptual sets for some particular objects in that category and place, although for the most of the objects in that category or place these sets are fully valid. Not liquid when checking the conceptual sets, when an object does not match with some sets, is reason enough as to remove the object from that category and/or place.

The third categorical check in the categorical Modelling System, once the category, the scheme, the sets, have been checked, will check that the conceptual model is according to the category, the scheme and the conceptual sets related to, or not removed from, that object, making an isomorphic model of that object.

The fourth categorical check in the categorical Modelling System will check that, according to the scheme, the sets, and the model, the model is located in the right place on the map.

The first four categorical checks within the categorical Modelling System are in fact the criticism of the deep artificial comprehension system, in which the categorical Modelling System consists of, in fact the first and second stages in the categorical Modelling System is the deep artificial comprehension system, structured as: conceptual scheme as first stage, and as second stage the conceptual sets, conceptual model, and conceptual map.

Having as first and second stages the deep artificial comprehension system, the third stage of the categorical Modelling System is the attribution of the right decision to every real object.

In a dating site, according to the conceptual: scheme, sets, model, location on the map; of every person, to match that person with the nearest person to make them possible meet up.

In a plantation of coffee or tea, the decision of, according to the variety of seeds of coffee or tea, the decision about where to plant and how to make the coffee or tea grow up.

In an artificial delivery system, the attribution of the right means of transport, a drone or driverless car to carry every package to the recipient.

Once the decision is made, the decision is stored in the categorical database of decisions as first stage for the categorical Decisional System, in order to make the categorical projects as second stage, match in the third stage the decision to the right range of instructions, in other words, the distribution of instructions per decision, to be sent to the categorical database of instructions as first stage for the categorical Application System.

In the same way that the categorical Modelling System will develop the categorical checks to ensure that all the processes within the categorical Modelling System are done having its performance high standards of efficiency, the categorical Decisional System

will carry out the categorical adjustments to ensure the efficiency in all its processes and procedures, and the categorical Application System will carry out the categorical supervision to ensure high standards.

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